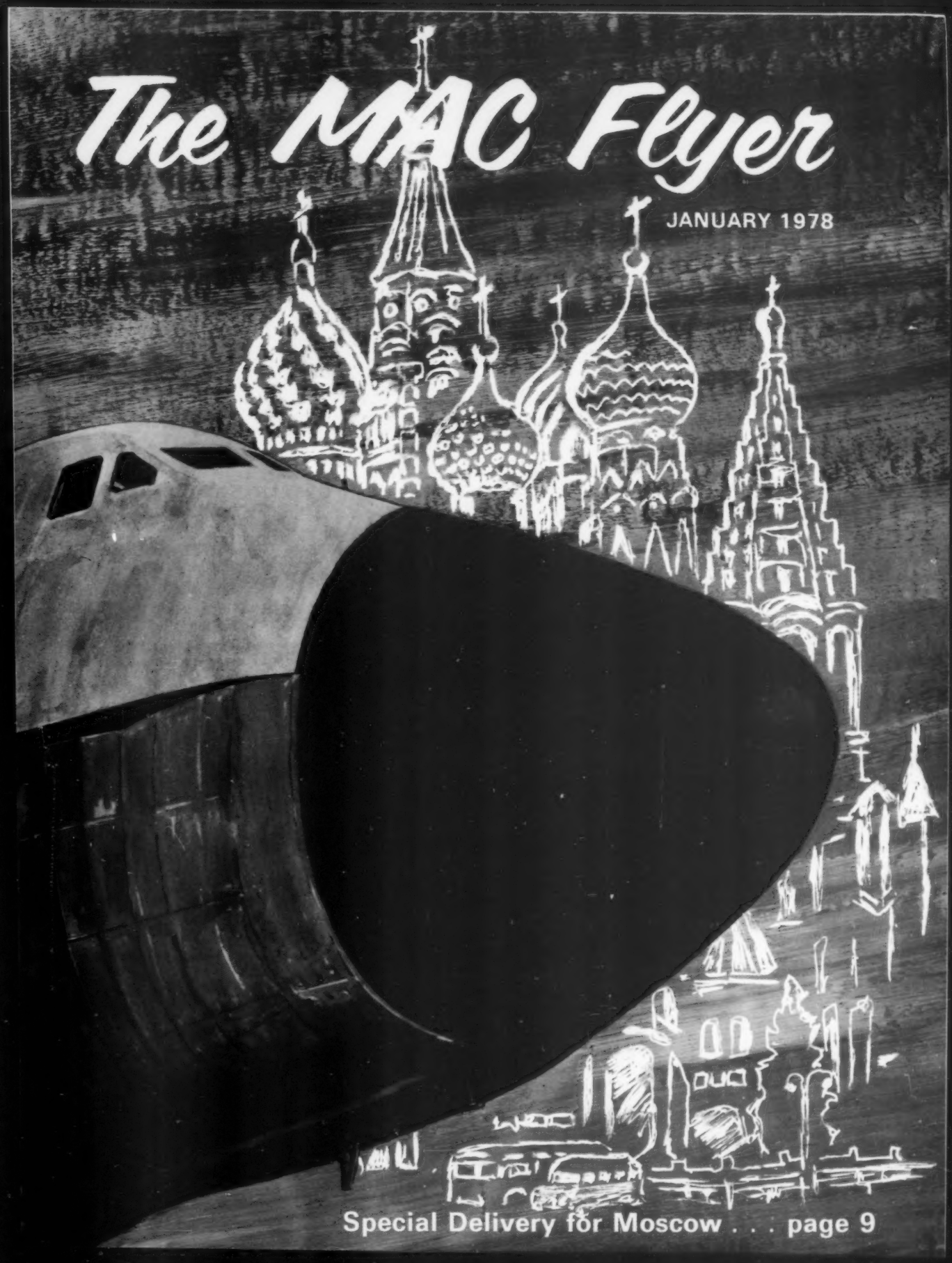
The MAC Flyer

JANUARY 1978



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The MAC Flyer

For Greater Efficiency
in MAC Air Operations

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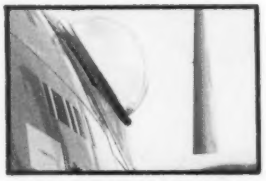

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The MAC Flyer is published by the Directorate of Safety, Headquarters Military Airlift Command. The contents are informative and not regulatory or directive. All names in accident stories are fictitious and no information concerning aircraft accidents may be construed as incriminating under Article 31, UCMJ.

Contributions, comments, and criticisms are welcome. Write: the Editor, *The MAC Flyer*, HQ MAC/IGFE, Scott AFB, IL 62225, or call: (618) 256-3534 or Autovon 638-3534. The editor reserves the right to change manuscripts to improve them or correct technical errors.

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The MAC Flyer Gets a Checkride

With few exceptions, those who examined *TMF* gave it a Q-1.

In our August 1977 issue, we published a tear-out centerfold—not of C.R. Terror or Patti McGuire—our biennial readership survey. We asked you to "tell us like it is." and 342 of you did just that. To you folks who took the time, thank you. *Thank you.* The feeling was something akin to the Maytag repairman getting 342 letters from home. But we did have to discount a few responses—for instance, the Editor of *TAC Attack* had nothing nice to say about MAC's fly-safe pub (and some of our best friends are fighter pilots). Other strange folks included The Sage Brush, four kindergarteners from Minot, and our own art director. With those responses suitably filed with our class action suit, we felt we had a fairly valid sampling.

The response rate was nearly one percent of 38,000 survey forms we sent out in 9,500 magazines. But that's not too indicative since some magazines are seen by only one pair of eyes. It's still a good return rate for a straw poll, and the survey gave us a lot of useful information, suggestions, and criticisms.

Who Are You?

About half of those who responded were aviators. The 156 MAC aircrewmembers represent 1.04 percent of the command's fliers. Wing commanders, loadmasters, engineers, and navigators responded. But most were pilots.

Among the non-aviators that responded, we found weather people, maintainers, suppliers, clerks, civil servants, and retired military (two generals responded). As with any tear-out survey, most of the responses were complimentary. A typical comment was that of a C-141 LM, "It's a good indication of the command's interest in the safety of its personnel. Keep it coming!"

Where Can I Get It?

To determine the efficacy of the U.S. Postal Service, our printer, Publication Distribution Offices, and local units, we asked a few questions on availability. From the question, "How many *TMF's* have you seen lately?" we determined that aircrewmembers see fewer issues of the *Flyer* than our supporters. This disturbing fact can be partially explained by the transient nature of the MAC aviator. TDY's, rotes, and strange business hours might deny some of our aviators the perusal of *TMF.* But following the survey, a spot check of unit requirements uncovered another problem area. Some flying units are receiving the magazine in a one pub to 30 aircrewmembers ratio. And that ain't good.

The MAC Flyer should be distributed in the following ratios: one mag for each five crewmembers, and one mag for each 20 support types. Various staff agencies are allowed to "cheat" a little to make sure that those who need *TMF* get it. *The MAC Flyer* should be *available* to every crewmember; your unit flight safety officer has this responsibility. If he can't help you, call us.

Who's the Fairest of Them All?

To rate *TMF* as a fly-safe pub, readers were offered choices from "a fish wrapper" to "the best there is." The old mag's chest swelled until its staples popped on this one. Eighteen percent rated *TMF* "best," 43 percent said "outstanding," and 30 percent said "good." Two percent said "poor." "A fish

THE EXAMINERS

BY JOB	%*
FLYERS	53
NON-FLYERS	37
CIVILIANS	8
RETIRED MILITARY	2

BY GRADE	%*
OFFICER	60
ENLISTED/NCO	29
CIVILIAN/RETIRED	10

BY AIRCREW POSITION	%*
PILOT	30
NAVIGATOR	5
FLIGHT ENGINEER	2
LOADMASTER	5
OTHER MAC AIRCREW	1
NON-MAC AIRCREW	5

BY AIRCRAFT TYPE	%**
C-5	14
C-141	33
C-130	26
CT-39	10
HELICOPTERS	8
OTHERS	7

*Percent of 331 surveys **Percent of MAC responses

Total percentages may not equal 100 due to rounding.

wrapper'' picked up two percent also.

The mag got high marks on ease of reading and comprehension (probably because we don't know any big words), but didn't do so well on timeliness and photography (problems we're acutely aware of).

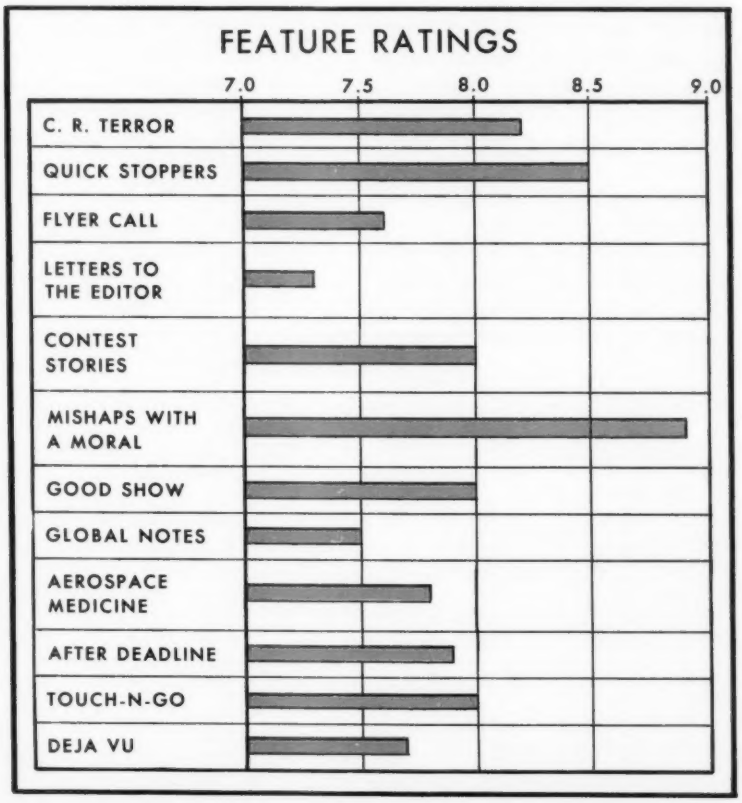
Ratings of specific *TMF* features were a little bit of a surprise. ''Mishap with a Moral'' got the best marks (no surprise) and ''Letters to the Editor'' scored lowest (surprise!). Why the surprise? Well, the *TMF* staff has always considered the ''letter'' department as a sort of open forum of discussion for MAC fliers. Recent editorial policy has dictated that we print all letters to the editor—within the bounds of good taste and space in the pub. We intend to continue that editorial policy.

What Did You Say?

''Tell us what you think of *The MAC Flyer*,'' brought a lot of comments. Some folks were nice:

From a TSgt, ANG, C-130B flight engineer, ''*TMF* is a well-produced publication . . . thought-provoking subject material.''

And a 141 instructor loadmaster, ''I use *TMF* to try to illustrate to my students that accidents don't happen, they are caused; the crewmember is a vital link in accident prevention.''



Average ratings on a scale of 1 to 10.

A LtCol, AFRES, HC-130, said, ''I read it monthly from cover to cover. I would not waste my time reading the junk I saw when I was in [other commands].''

Col, C-141 wing commander, ''well done . . . a credit to MAC professionalism.''

Major, weather forecaster, says, '' . . . gives an insight to us 'support' types of the perils, problems, and frustrations of flying so that we can . . . do our jobs.''

And a Major education officer provided this warm fuzzy, ''. . . my favorite AF publication . . . even though I'm not rated (and female). Keep up the terrific work!''

And some folks were not so nice:

From a Captain, information officer, these words, ''Very amateurish in layout design, lack of quality photos and artwork . . . presentation is unsatisfactory'' (sigh).

A number of crewmembers felt that *TMF* was a ''pilots only'' publication.

Other comments include,''. . . waste of time and money'' and ''just Air Force propaganda.''

Other folks wanted to see more articles about themselves and no articles about others. ''More girls'' was a frequent remark. There were even some comments about the supervising editor's hairline. And a C-5 pilot warned us, ''Don't pay any attention to the 'kooks'.'' Maybe he had the right idea.

But regardless of your comments, those 342 letters from home will be held in the highest esteem here in C.R.'s hangout. The ''Old Boy'' thanks you—as does the *TMF* staff.

A Statement of Editorial Policy

The *Flyer's* Approach

As we mulled over those survey responses we were happy with what the *TMF* faithful said about the mag (page3). But one thing that kept popping up was reader uncertainty as to the charter of *The MAC Flyer;* hence, these words on editorial policy.

MACRP 127-5 is the fly-safe journal of the Military Airlift Command. Party line? No. MAC propaganda? No. *The MAC Flyer,* as the name implies, is for the MAC flier. It is written by aircrewmembers on the editorial staff and in the field.

If you read the fine print on page 2, you'll find that your favorite mag is printed by underlings in the MAC Safety Directorate—not the Information Office; therefore, we do no "public relating." Our chain of command is unique in that it allows a certain amount of journalistic freedom. So, with a free hand and lots of backing from those in higher pay grades, we manage to print some things that suprise and delight.

The staff now consists of one master navigator and two senior pilots. Simple math will tell you that there's no way three editors can be qualified or even knowledgeable in the nearly 20 types of aircraft owned by MAC. That means we're hurting for experience—always will be. Right now, the lineup gives us lots of C-141 time (combined) and lots of C-130 time (combined) and, while that may satisfy the "big MAC/little MAC" routine, it leaves us very short on helicopter, C-5, C-9, et cetera, experience. That's why we depend so much on treatises from the "troops in the trenches," the ones who fight the real war with command post, maintenance, operations, and weather.

Some criticisms concern timeliness. "That happened a long time ago and you're just getting it into print. How come?" Because the wheels of justice and accident investigation boards move in a very slow and deliberate manner. And for good reason: accuracy. The stated sole purpose of an accident investigation is accident prevention. Well, that's the philosophy, at least. Not everybody follows the rules. But that *is* the reason that accounts of accidents appear in the *Flyer.* Not to report it—just to make you aware of what happened, so you won't make the same stupid mistake.

And often when we do a story on an accident, somebody calls and says, "Hey, was that the 141 that crashed at such and such?" or "Wasn't that the Herk that did such and such?" An editor sheepishly answers yes. "Well, why didn't you say so in the article!" the guy on the other end shouts.

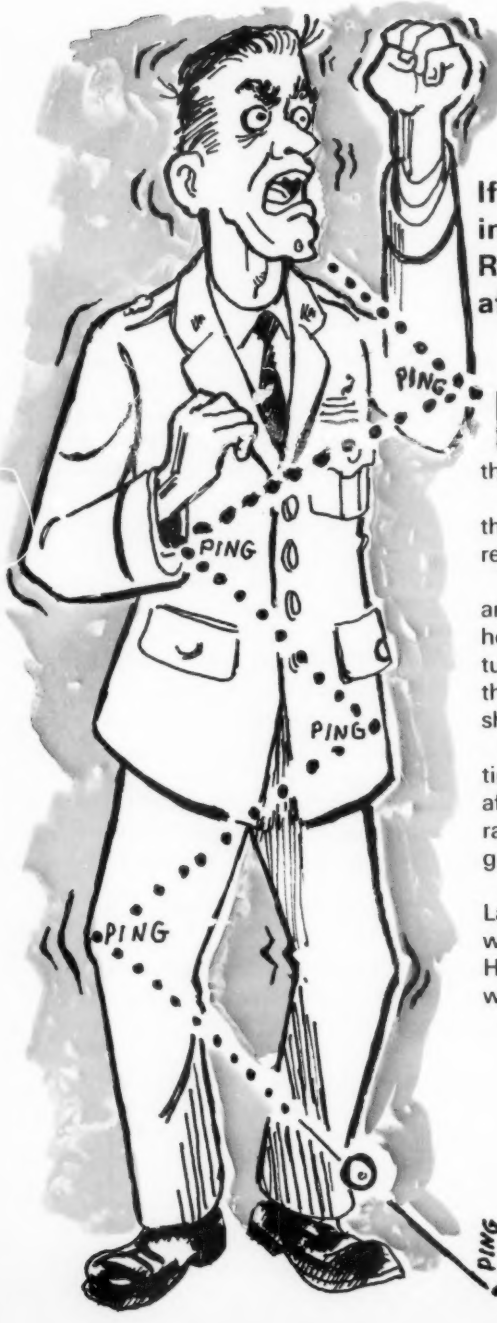
There are a couple of reasons why we don't identify the specific mishap. For one thing, it isn't important. The necessary facts are there. Who's, when's, and what's only inspire viciousness.

The second reason we don't print every detail is that AFR 127-4 suggests the removal of such things as mishap date and place, tail number, names of people involved, and any details that identify the specific mishap. This should protect the "privileged status" of accident reports, thereby denying certain unscrupulous members of society the opportunity to turn an object of "safety education" into "Exhibit A."

Well, that's how *TMF* operates.

"You folks with wings have all the fun," The Sage Brush said in the October issue. "That's because we take all the chances," an itinerant editor replied. That's what it's all about, ladies and gents, let's just take as few chances as we have to.

The Pinger



by Capt James P. Coe
Associate Editor

If you've ever worked for somebody like the guy in the picture, then you know what a pinger is. Read on to learn how the overreactive manager affects himself and his unit.

"Lieutenant, get me Captain King right now!" boomed the ops officer.

"I show him in crew rest, sir," the young duty officer nervously replied.

"I don't care! Get hold of him, and tell him to get his butt in here. I want to know why he turned down 876 last night!" the heavy-handed light colonel shouted.

The subject of the colonel's tirade had just settled in for an afternoon nap when the phone rang. He answered with a groggy, "Cap'n King."

"Yes, sir. This is Lieutenant Langstrom. Colonel Rimshot wants you in here right away. He's really bouncing off the walls."

"Yeah, I figured he would be after I turned down that plane last night, but with no radar and thunderstorms forecast . . . well, hell—I might as well come in and take my beating."

Anyone who has worked around an overreactive manager can probably recall a similar experience. The ops officer in this case is the type of person that we sometimes call a "pinger," because he seems to ricochet around his office each time something goes wrong. He makes snap judgments; he specializes in crisis management and usually can browbeat his subordinates into obedience, squelching loyal dissent. He may fool his superiors by looking effective over the short haul, but the faults in his style will even-

tually catch up with him.

Don't confuse The Pinger with the leader who expects a lot from his staff. The manager who insists on completed work and expects his subordinates to use their initiative is not overreacting; neither is the busy supervisor who expects his people to come to him with problems and proposed solutions. It is normal for a manager to express anger occasionally and some situations do require crisis management or quick decisions; these actions do not make this guy an overreactor. The identifying characteristic of The Pinger is consistent, negative, violent, and frequently profane response to any situation which deviates from the norm.

When a Pinger temporarily runs out of crises, he may manufacture some. This works very well if the crisis can be constructed from the remark of a more senior manager.

Master Sergeant Handsmith is this kind of supervisor. This morning the chief of maintenance mentioned that two of the wing's aircraft had been delayed this week because of loose B-nuts in the engine oil system. Sergeant Handsmith, Quality Control Superintendent, perceived this as a crisis for the inspection branch. He rushed back to QC and quickly established new procedures for the inspection of B-nuts. For the next month, seven-and nine-level maintainers would be watching two-stripers tighten nuts.

Escape and Evasion

Psychologists tell us that most people attempt to avoid unpleasant situations and usually work toward pleasure. This holds true in the work environment. The folks who work for the overreactive manager will usually try to evade or escape. Both solutions have an effect on safety.

The Pinger's subordinates often isolate him in the management system by constructing an informal chain of command *around* him when they can; and if they can't, they probably will do their best to hide problems. When things finally get so bad that they require the attention of the overreactor, the staffers will grit their teeth and take the problem to him. This gives The Pinger another chance to ricochet, manage a crisis, and reinforce his overreactive behavior and his negative opinion of subordinates.

In his isolated position, the overreactor may believe that the operation is running smoothly and safely. His subordinates will do their best to keep him thinking that way till something disastrous happens, like an aircraft accident. Because of his isolation, The Pinger may be unable to take the management actions that could prevent that accident. Also, his actions may apply direct pressure on his people to make unsafe decisions, both to avoid expected ridicule and to keep up the appearance of smooth mission accomplishment.

The other option open to those who work for the overreactive manager is escape. Workers often begin looking for other jobs when a new boss, who proves to be a Pinger, takes over. The personnel retention rate in the overreactor's organization will probably drop and the separation and retirement rates will go up. These trends mean that the unit will consistently have a low experience level and continual retraining will be required.

Fewer Retirement Checks

"Up tight" is one term that might be used to describe the overreactor. "Type A" personality is a term used by Doctors Friedman and Rosenman in their

book, *Type A Behavior and Your Heart*. Type A may also describe The Pinger. The Pinger is wound up tight and this has definite effects on his body and psyche. Medical research shows that being up tight continuously can lead to high cholesterol levels, hypertension (high blood pressure) and possible heart attack. The Pinger lives in a state of constant nonspecific fear and may incur a variety of psychological problems whose symptoms appear in the social world as alcoholism, chain smoking, drug abuse, etc. The cumulative effects, psychological and physical, can lead to the premature termination of body function and the big PCS.

Above His Level

We have to ask, how does a guy get so up tight? Psychologists provide a wide variety of explanations depending on their particular inclination. The Freudian psychologist might tend to blame this self-destructive behavior on experiences during early childhood. The behaviorist might point out that the overreactor is receiving some type of reward for his actions. Also, the behaviorist may mention that The Pinger is emulating another seemingly successful person he knew; this is known as behavior modeling. Another explanation comes from Dr. Lawrence M. Peter, author of *The Peter Principle:* The Pinger may be reacting to having risen to a position above his level of competency.

There Is Hope

The Pinger may one day be recognized as ineffective and hazardous by his superiors. They may tactfully move him to a position where his ricochets won't cause problems or to a position of lower responsibility where he can cope. If these upper level managers don't find an isolated large gray desk for The Pinger somewhere, then the Air Force Inspection and Safety Center may get to record his effectiveness in a mishap report: "Cause, Operations Factor, Supervision (Direct)." In either case, the overreactive manager will probably not continue to be a problem for that particular unit. Managers should look for overreactors and attempt to resolve the incurred management problems before they lead to disaster.

And there is hope for the individual who has developed an up-tight lifestyle. Whether you're a loadmaster, pilot, commander, or clerk, you might periodically ask yourself some questions: Do I make snap decisions when adequate time for contemplation is available? Do I react violently when confronted by new problems when restraint is really appropriate? Do I drink, smoke, or eat more than I should? Did the doctor do a double take at my blood pressure on my last physical? Do I take problems home with me after work?

If you answer yes to a lot of these questions, then you've got the symptoms. It's probably time to take a look at the way you run your life, the way you manage and lead, and your own personal goals.

Ping . . . Plunk

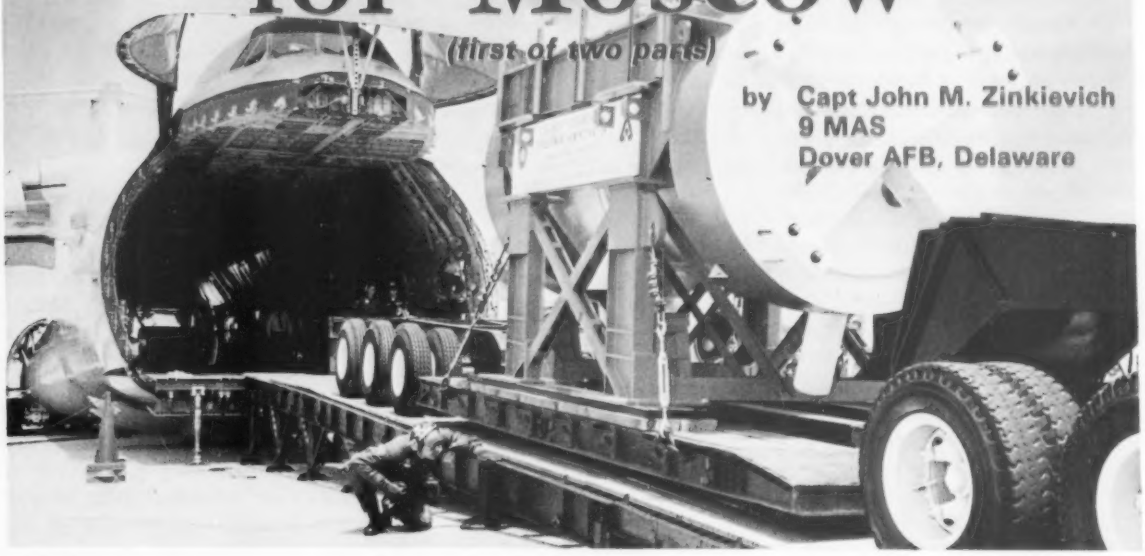
And what about our opening dramas? Captain King received a thorough mastication from "Ricochet" Rimshot. Since Chuck was "short," he told Ol' Ricochet what he thought of him, his operation, and his style of leadership. Also, Capt Chuck King declared his crew rest interrupted, thus messing up the schedule considerably and drawing the DO's attention to a not-so-smooth operation. Lieutenant Colonel Rimshot now has several new problems to react to and he's enjoying it.

Master Sergeant Handsmith's boss is *not* an overreactor. Fortunately for the maintenance folks, he stopped the extra B-nut inspections. The grapevine has it that there's a base-wide search on for a highly experienced senior master sergeant to take over as QC superintendent.

Special Delivery for Moscow

(first of two parts)

by Capt John M. Zinkievich
9 MAS
Dover AFB, Delaware



A MAC aircrewman tells the inside story of the C-5's world-record airlift.

As we sat down in the squadron briefing room, there was an air of anticipation. This was not going to be a normal channel mission; the gathering included the squadron commander, his ops officer, the wing assistant DO, and other representatives from the wing staff. Then, of course, there was us—the crew. Capt Dave Sprinkel, our leader, was about to begin the aircrew-briefing checklist. Capt Bob Murdock and I would assist him at the controls. Our navigators were Capt Pete Jones and 1st Lt Dick Surman. The engineering department was headed up by SMSgt Charlie Beck; the other EPR-keepers were TSgt Glen Eskridge and SSgt George Marasco. But it was the loadmasters who were about to have a really new experience—Chief Ron E. Euscher would be bossing that department with MSgt Lester Finney assisting. TSgt Jerry Slocum and SSgts George Stacey and Bob McLendon rounded out the weight and balance crew.

Captain Sprinkel began, "The objective of this mission is to airlift 20 civilian personnel and 169,798 pounds of cargo from Chicago's O'Hare Airport nonstop to the Sheremetyevo Airport, Moscow, Union of Soviet Socialist Republics. We'll utilize two aerial refuelings. The cargo is a 40-ton superconducting magnet with support equipment to be used in a joint US-USSR program to develop magnetohydrodynamic electrical power generation."

We were the 9th Military Airlift Squadron crew selected to fly the first C-5 into Moscow. The itinerary was Dover to Chicago with two days at O'Hare, Chicago to Moscow with approximately 29 hours on the ground, Moscow to Rhein Main Air Base and crew rest, and then to Chicago and back to Dover.

I had been notified of the mission approximately six weeks before this briefing while at Altus AFB going through the C-5 Air Refueling School. "Call the scheduler at the 9th," they said, "regarding a possible trip around the 20th of June." If I had nothing planned at that time, they told me, I was being placed on the primary crew for a trip to Moscow. The augmented crew was to be air refueling-qualified, and I was to be one of the three pilots. I don't know about you, but I am one of those guys who always checks six for "the last of the good deals." Being placed on the Moscow trip just did not seem normal, but by the time I hung up the phone I was getting psyched up for the trip.

As the 17th of June drew closer, everything was beginning

to fall into place. Dave Sprinkel went through countless briefings in preparation for this Special Assignment Airlift Mission. Maj John Kiesling of Wing Commitments was carrying the ball for the coordination of every facet of the trip, from power carts at Moscow to the initial meeting with the Aeroflot navigator and the radio operator at Chicago. He kept Dave continually updated on all changes to the mission. The pressure for mission accomplishment, however, would be on Dave; before this mission was over, he would confront nearly all that could befall an aircraft commander. The trip would be a first in many ways; it would be the crew's first time to fly into O'Hare, it would be the first C-5 into USSR airspace or Moscow, and it would be the first time that such a cargo was airlifted. But most important would be the safe and punctual delivery of the superconducting magnet, a matter of concern to the US State Department, the Air Force, the Energy Research and Development Administration, and the Institute for High Temperatures of the USSR Academy of Sciences.

Two days prior to our departure for Chicago, the navigators, Captain Jones and Lieutenant Surman, computed the flight plan fuel load for the Chicago to Moscow leg using a weather alternate in Denmark. The following day the pilots and navigators went over the route of flight, filling out the ICAO flight plan. Jeppesen charts and approach plates were used where the DOD charts terminated. The approaches into O'Hare and the airfield diagram were reviewed as well as those for Sheremetyevo Airport. In conference call with MAC Standardization and 21st Stan Eval, we were briefed on airfield obstacles, runway and taxiway widths, and pavement conditions at Chicago, Moscow, and our alternates. We were advised where we would block in at the military side of O'Hare and the possible taxi route and parking spot at Sheremetyevo Airport.

You can imagine how important load planning was, and Chief Euscher was the focal point. We were to carry a 40-ton magnet, a 20-ton tractor-trailer, and necessary support equipment. It was a load that had never been carried before and planning was from scratch. In addition, loading ramps were specifically designed and constructed to facilitate the loading.

With the aircrew briefing completed, the crew went on its way to ready the C-5 for the mission. As on all missions there is an equipment officer and I was duly designated. While Dave, Bob, and Dick flight planned for Chicago, I went to the aircraft with the rest of the crew. It was something to behold! There are clean aircraft and there are *clean* aircraft, but 90018 literally sparkled. The exterior was immaculate with new tires and a recent wash. The interior was squeaky clean! The flight instruments had been Windexed; there wasn't a trace of dust anywhere. And the entire aircraft smelled of 409 and wax.

I *knew* this was a high priority mission, but the real truth surfaced when I gave command post a call requesting headrest covers for the troop compartment seats. I got the usual "It's on the way." Would you believe it? Five minutes. When was the last time you had a response like that?

The preflight was uneventful, and we treated the leg from Dover to Chicago as a shakedown for the run to Moscow. Dave was giving me this leg and briefed me on the intended route, notams, and weather. Chicago was anticipating a frontal passage with severe thunderstorms late in the afternoon, but we should be on the ground four to five hours ahead of it. The only significant item was possible isolated thunderstorms en route. I was setting my command markers when Colonel Smith, 436th wing commander, Colonel Kavookjian, DO, and Colonel Schmidt, chief of maintenance, came on board the aircraft. They shook hands with each crewmember, wished us the best, and envied us the trip. There was an air of confidence as we began the before-starting-engines checklist.

Takeoff was on time, and 90018 lifted off on the Wilmington Four departure. We anticipated blocks at O'Hare in two hours. Before leveloff the navigator informed us that the radar would need to be fixed at Chicago. In addition, the primary computer was acting up. En route there was one "bumper"; we gave it a 20-mile berth.

Approaching the Chicago Terminal Control Area we tuned in the ATIS for weather and landing information at O'Hare. Traffic was landing runway 32 and the clouds were scattered cumulus which wouldn't be a problem. I conducted the pre-approach briefing and we began our descent into O'Hare. Initial contact with O'Hare approach found us revising our briefing for an approach to 22R. Another frequency change and we were asked if we could accept an approach to 14L which would

TSgt Slocum, loadmaster, briefs the assistant air attache and the Russian radio operator before departing Chicago.

facilitate our taxi to the Air Guard ramp. Still another revision to the briefing and we were cleared for a visual approach to runway 14L. We intercepted the ILS on our own and completed the approach and landing.

We were expected. There were approximately 50 onlookers excluding maintenance, security, and members of the 928 TAG (AFRES), who were to load the cargo. Postflight procedures were normal, and Dave briefed the Lockheed tech rep on our maintenance problems. If the spare parts we were carrying with us would not correct the problem, then the necessary parts would be flown in from Dover.

While the loadmasters were forward kneeling the plane and preparing to set up the loading ramps, the pilots and navigators proceeded to base operations to check on our flight plan for the leg from Chicago to Moscow, review any messages, and notify 21st of our status. From our first entry into base operations until we left, we received impeccable support from the personnel at O'Hare.

As we were walking out the door a representative from Argonne National Laboratory, builders of the magnet, asked if we would care to look at the cargo we would be carrying. We drove to a hangar across the ramp; inside, tied down to an air-ride lowboy trailer and connected to a Mack tractor, was the magnet. Though the magnet is considered compact in size, 14 feet long by 6.5 feet in diameter, it is the largest and most powerful magnet of its type ever built. It is capable of generating a local magnetic field more than 250,000 times as powerful as earth's. The entire package of magnet, tractor, and trailer was painted in a bold pattern of red, white, and blue.

Saturday morning, the 18th of June, was clear as a result of the frontal passage—a good day for a news conference, tour of the aircraft, and loading of the cargo. The crew arrived early, the pilots and navigators reviewed the routing from O'Hare to Sheremetyevo and the flight plan was filed 24 hours ahead of time to insure the altitude reservations (ALTRV) for the air refueling. It was at this time that we met the Russian navigator and radio operator who would provide assistance in Soviet airspace if we should need it.

The press conference was held at 11:30 a.m. CDT, with editors and correspondents from the major national radio and television networks, national newspapers, and press agencies. We learned that this joint US-USSR energy research agreement was negotiated in 1973 by former President Richard M. Nixon and Soviet Premier Alexei Kosygin. The US-built magnet would be used to test the experimental magnetohydrodynamic (MHD) process for generating electricity. MHD generators could be as much as 60 percent efficient, compared to the 35 percent efficiency of today's typical fossil fuel plants. The Soviet Union's experimental MHD plant, the "U-25," located outside Moscow, is the only experimental plant in the world integrated into a standard utility grid. Air transport of the magnet was chosen rather than risk the chance of damage during a long sea voyage, and the C-5 Galaxy is the only aircraft in the world capable of transporting such a load that distance nonstop.

Captain Sprinkel explained at the news conference that the 12-hour flight would be flown with an augmented crew accomplishing two air refuelings; the first near Sable Island, southeast of Nova Scotia, and the second over Scotland. This nonstop flight could be viewed as a total Air Force mission. An active Air Force crew was being supported by the Air Force Reserve at O'Hare. The ANG's 101st Air Refueling Wing, based at Bangor, Maine, would provide the tankers for the first refueling; and the second refueling would be done by Detachment 1 of the 306th Strategic Bomb Wing

from RAF Mildenhall, United Kingdom. After the press conference, the attendees received a tour of the C-5. The crew was randomly placed about the aircraft to answer any questions the visitors might have.

I think when any outsize cargo is airlifted and, in particular with a "first time" cargo, one turns into a skeptic about whether the cargo can get into the plane. This was no exception, and as the rig backed up the loading ramp, it became evident that there wasn't enough clearance between the bottom of the trailer and the lip of the forward ramp—three inches too low. But, if any team of loadmasters could put it on, this one could—and did. Slowly, carefully, and meticulously shoring was laid on the ramps to alter the slope and inch the cargo up. It took four hours to ease the cargo into the plane.

The Galaxy was buttoned up and ready for a 1700Z departure on the 19th of June, and the crew was ready! We were confident—but we saw three stages that would determine our success. The first, of course, was the departure, where everything should fall into place within the critical 19 minutes—gear and flaps up, four engines normal, and all systems functioning properly. The second and third areas of concern would be the aerial refuelings. Other than the usual risks of flying airplanes in close proximity, we were concerned with (1) the ability of the tankers to give, and our aircraft to take, the required fuel, (2) the weather on the tracks, and (3) the fact that we would be coming off the boom at our maximum weight of 712,000 pounds. Tomorrow would tell the tale.

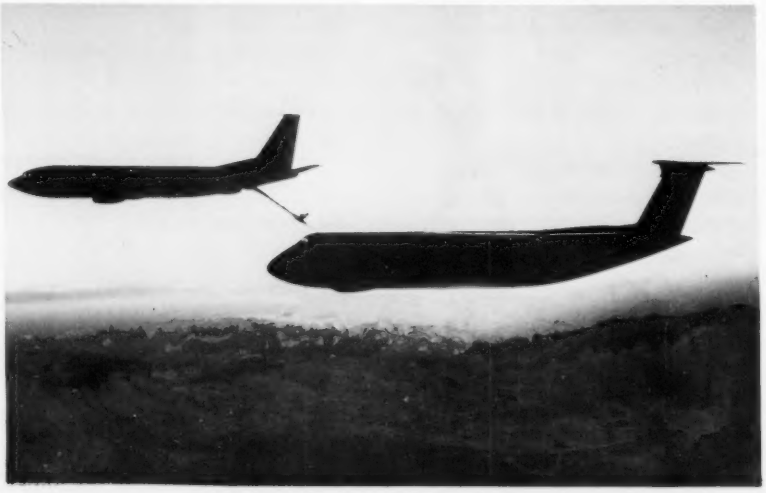
The morning was clear with some scattered clouds at about 1,500 feet—an ideal day to fly. Preflight procedures went normally and smoothly. TOLD was checked and rechecked for each of the three possible departure runways. The passengers were boarded and the assistant air attache, the Russian navigator and the radio operator were escorted to the courier compartment on the flight deck. Everyone on board was fitted with a back pack parachute and an LPU and instructed on the use of each item which had to be worn during the aerial refuelings. The only "glitch" was the weather on the first air refueling track. At our altitude we were to be in and out of clouds with possible light turbulence and less than a mile visibility. We would need two miles viz to rendezvous with the cell of three tankers, but daylight would help the situation.

We started engines and got taxi clearance to runway 32R. But our airfield diagram indicated that our taxi route was less than our minimum of 75 feet width. We requested a revised taxi clearance; it was readily granted. We also advised tower that our takeoff time was controlled and that we would appreciate a 1700Z departure. Quickly the traffic flow was shuffled to accommodate us.

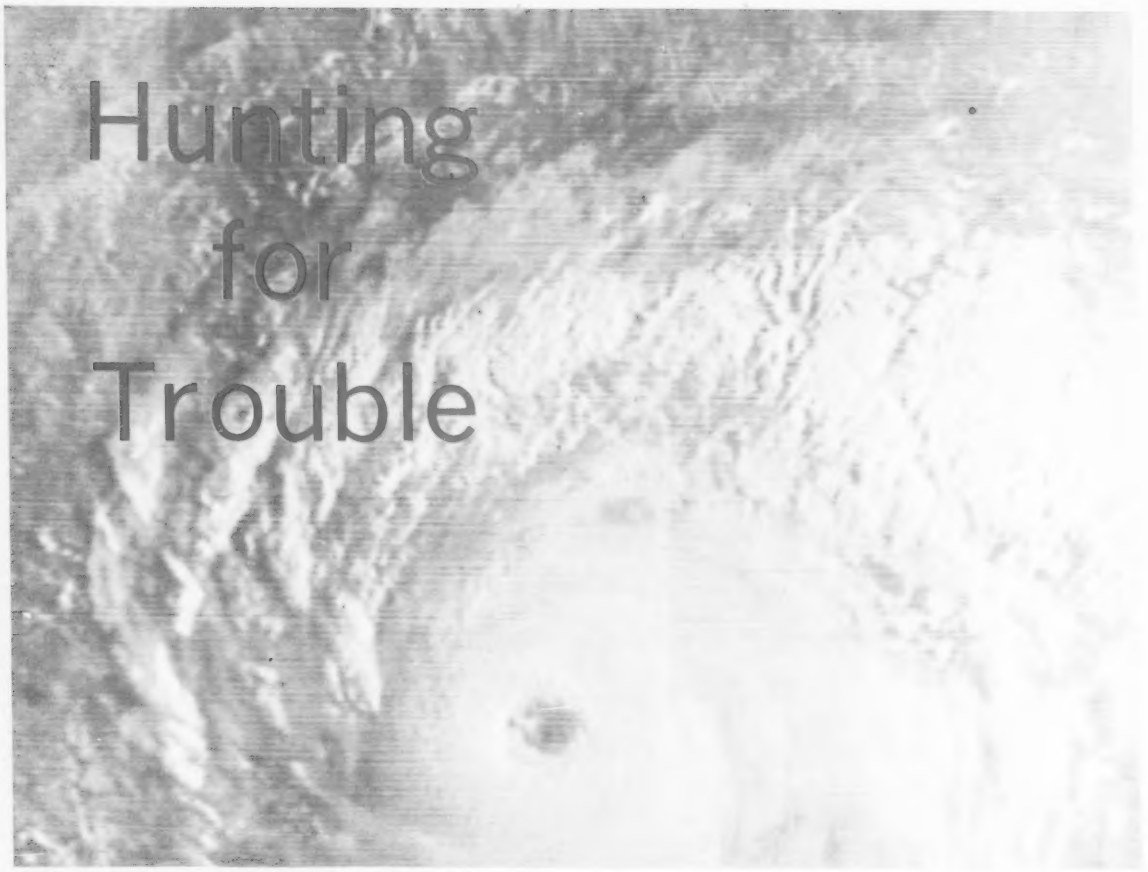
"Cleared for takeoff," O'Hare called. With Captain Sprinkel in the left seat making the takeoff and Captain Murdock in the right seat, our maximum-gross takeoff roll was initiated between arrivals on an intersecting runway. Approximately 7,200 feet down the runway we slowly lifted off and began the climbout.

"Gear up!" was the command from Dave. Bob acknowledged with "Gear up!" and brought up the lever. And then it seemed that we all saw it at the same time: the right aft gear remained in green wheels. I had gone through this procedure dozens of times in the simulator—gear lever back down, get five green wheels, go to reset on the crosswind reset switch for two or three seconds, and bring the gear lever back up. Dave directed the procedure, and what *always* worked in the simulator *failed* this time.

Next month: the conclusion of Special Delivery for Moscow



Hunting for Trouble



Ride along with MAC's storm-chasers as they analyze Mother Nature's most tumultuous temper tantrums.

There is always a little bit of fear whenever anyone flies into a hurricane . . . keeping you on edge, always alert, always cautious. The most dangerous part of any storm mission is flying into the wall of thunderstorms that rings the center of a hurricane . . . we try to find the weakest link in the wall cloud to go through, and if we can't, we must penetrate the wall anyway.''

The commander of the 53d Weather Reconnaissance Squadron—also known as the''Hurricane Hunters''—was talking about his job. Difficult, dangerous, sometimes terrifying—but necessary. And for years, the weather reconnaissance crews of the Aerospace Rescue and Recovery Service have been doing that job successfully—and considering the hazards they face, with an amazingly good safety record.

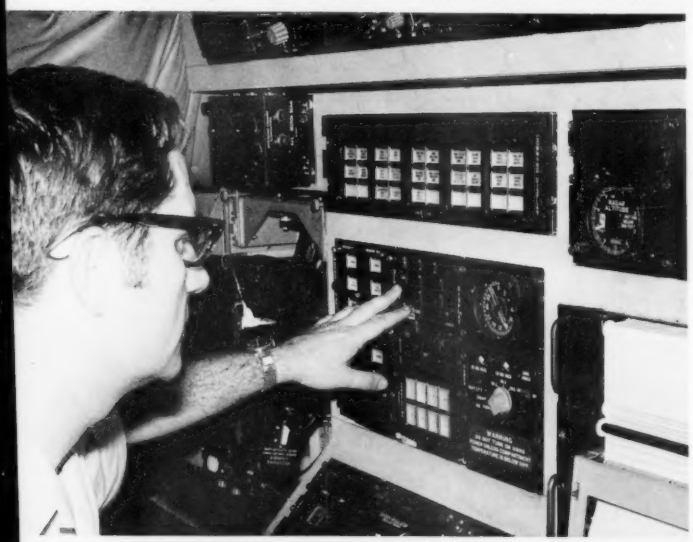
Why do units like the 53d pit the relative frailty of man and machine against the overwhelming ferocity of nature's worst weather? The simple answer is the ARRS business: saving lives. Since the 1940's weather recon units have been tracking tropical storms, providing early warning of their movements, and buying priceless time for those in the path of a storm. The men who do it feel it's well worth the risk.

Despite the extreme hazards, MAC's storm-chasers have compiled an enviable safety record.

The techniques of storm reconnaissance have changed considerably since 1943, when Maj Joe Duckworth took off with a navigator in the back seat of his T-6, flew into a hurricane off the Texas coast, then came back and did it again with a weather observer on board. New aircraft and equipment have made the job somewhat easier and considerably more productive since those early days, but the challenge is still very much there.

A typical storm mission might be born in the National Hurricane Center in Miami. From satellite photographs and other weather data, meterorologists locate a possible storm area. The coordinates are relayed to the Chief Aerial Reconnaissance Coordinator, all Hurricanes (CARCAH), where target times are determined. After the details of the mission are laid on, the rest is up to the crew.

As you might expect, a weather recon crew is a little different. A WC-130 carries two pilots, a navigator, and an engineer—but in place of the loadmasters, there's a weather officer and a dropsonde operator. The weather officer, ensconced in a cubicle with some very specialized and sophisticated equipment, acts as the Mission Director. Although the aircraft commander has overall responsibility for the aircraft and crew, the weather officer is the expert who must assure that the technical requirements of the mission are completed.



The weather officer acts as the mission director.

On the way to the suspected storm area, the Hercules cruises at normal en route altitudes. Then, about 100 miles from the reported coordinates, the aircraft descends to about 10,000 feet—the altitude at which the storm will be penetrated. The object now is to penetrate to the eye of the storm—and to do this, the eye must be located.

Since a tropical storm in the northern hemisphere is a closed circle of winds blowing counterclockwise around the center, flying with the wind at a 90-degree angle from the left will bring the aircraft to the eye. Working together, the weather officer and navigator keep the aircraft on course, moving steadily toward the point of lowest atmospheric pressure. As the aircraft penetrates the spiral bands of rain surrounding the storm the turbulence increases; rain spews against the aluminum skin with almost machine-gun intensity. Then, as the Herk nears the eyewall and the navigator searches for a "weak" spot on radar, things really begin to get tough. Again, the words of the 53d squadron commander:

"The whole thing has to be done in a very professional manner and with precise, coordinated moves. Throttles and yokes, airspeed, rudders, and even communication with other crewmembers must be as smooth and efficient as a ballet. Each crewmember has to know his or her exact duties—when and how. You never know how the aircraft is going to react to the raging tantrums of a hurricane. You can be pinned in your seat one moment and the very next be hanging onto your seat belt and shoulder straps . . . Most of the time it seems as if someone has turned a dozen fire hoses on you . . . even with earplugs and headsets and the noise of the engines, it sounds as if you are inside a popcorn popper from the noise the rain makes.

"All of a sudden, even though the few minutes we took to pass through the wall cloud seem like eternity, it is extremely quiet except for the drone of the engines. It's so quiet, it's almost spooky. After fighting the turbulence, the rain, and the

"In that one particular moment inside the eye, all of the fear and anxiety momentarily leave your body."

lightning, we've hit the eye of the storm . . . the serenity and beauty within the center will literally cause your jaw to drop in awe. There you are, in the middle of nature's fiercest storm, with white, almost ice-like clouds surrounding you, towering above you to a crystal-blue hole in a shrouded sky. You can look below at the churning white and emerald green waters that suddenly, almost abruptly, form into a calm, almost rippleless surface at the very center of the storm. In that one particular moment inside the eye, all of the fear and anxiety momentarily leave your body. But then you realize that you have to fly out into the wall of thunderstorms . . . in a precious few minutes."

Those precious minutes in the calm of the eye are busy ones for the crew. While the navigator gets a fix on the position of the storm center, the dropsonde operator releases a small radio transmitter; as the dropsonde falls, slowed and stabilized by a small parachute, it transmits data on atmospheric conditions within the storm. The weather officer then transmits this and other data directly to the National Hurricane Center by HF radio, where the information will be used to predict the possible future track of the storm.

Now the crew must push the WC-130 back through the eyewall, through the pounding turbulence and slashing rain, until they're clear—and then go back and do it again from a different direction. Four penetrations in six hours, and then back home and into crew rest until the next call comes. And when a storm is on the move, that call may come very soon.

Despite the extreme hazards of this sort of flying, MAC's stormchasers have compiled an enviable safety record. At Keesler AFB, the 53 WRS has been accident-free for 11 years and over 70,000 hours of flying time; another Keesler unit, the Air Force Reserve's 920 WRG, has had no accidents in its four-year history. And the 54 WRS at Anderson AFB, Guam, where hurricanes are known as typhoons, has lost only one aircraft in 15 years and more than 120,000 hours; the accident was not charged to the squadron.

The observation bubble of the specially equipped WC-130 is used to gather additional information about storms.

What's the secret of this kind of performance, and what can the rest of us learn from it? Maybe the 53d's commander said it best: "The whole thing has to be done in a very professional manner . . . each crewmember has to know his or her exact duties."

Professionalism, discipline and crew coordination. If they can keep you safe in the middle of a storm's violence, they can keep you safe anywhere.

Much of this article was based on an interview with Col Albert D. Purvis, then commander of the 53 WRS. Our thanks to Capt L. Scott Cox for his account of the interview and for other valuable information. —Ed.

The Airlift Legacy

C-118 Liftmaster

The Douglas C-118, [illegible] version of the DC-6A, began [illegible] in the early 1950's. The Liftmaster had a range of [illegible] nautical miles and was the first USAF airlifter to cross the Atlantic nonstop. C-118's were used to airlift nearly [illegible] Hungarian refugees during Operation [illegible] (1956-1957) from Munich, Germany, to McGuire AFB, New Jersey. Power was provided by four Pratt & Whitney R-2800-52W engines, water injected, producing a maximum of [illegible] horsepower each. The first USAF transport to use fully reversing

propellers, the Liftmaster could move 68 fully equipped troops, 54 litter patients, or 25,400 pounds of cargo at a 218-knot cruise speed, at altitudes over 20,000 feet. The C-118 was approximately 105 feet long and over 117 feet from wingtip to wingtip. Takeoff maximum gross weight was 107,000 pounds; operating weight, 67,300 pounds (passenger configuration); fuel capacity, 31,613 pounds; max ACL, 20,090 pounds (cargo). A C-118 had the honor of serving President Truman as the first "Air Force One."

GLOBAL NOTES

Copter Units Cop Awards

USAF Flight Safety Plaques for 1976 went to two MAC units: 71 ARRS, Elmendorf AFB, Alaska, and 37 ARRS, F. E. Warren AFB, Wyoming.

The 71st was selected in recognition of 15,000 hours flown from March 1970 through December 1976 without an accident.

The 37th and its detachments were recognized for their 30,000 safe flying hours during the period March 1975 through December 1976.

Nuke Safety

The 14 MAS, Norton AFB, California, received the USAF Nuclear Safety Plaque for 1976. This award recognizes units which have made significant contributions to the safe completion of the nuclear mission of the Air Force.

The squadron completed 128 international and 256 domestic sorties during 1976.

15,000 Hours

Lt Col Ivan W. Oman, instructor pilot with the 164 TAG (ANG), Memphis International Airport, Tennessee, has accumulated 15,000 accident-free flying hours. He was presented with 15,000-hour patches, which will identify him as a leader in flying safety.

In a letter of commendation, General Moore, CINCMAC, congratulated Colonel Oman for his outstanding achievement.

Positive Action

It takes considerable skill and cunning to get a helicopter down in one piece after it has lost hydraulic pressure, and for doing just that Capt David A. Voigt, 37 ARRS, F. E. Warren AFB, Wyoming, was presented the MAC Distinguished Individual Safety Award. When the HH-1H in which he was conducting an aircrew flight evaluation experienced a complete hydraulic system failure, Captain Voigt assumed control, insured emergency procedures were completed, and positioned the aircraft for an approach to the active runway. A shallow approach and a slide landing were accomplished safely.

Honors from AFA

● A crew of the 512 MAW (Associate), Dover AFB, Delaware, was named the 1977 recipient of the Air Force Association's President's Award. This award honors the Air Reserve Crew of the Year for an outstanding contribution to the Air Force and the nation. The crew was cited for a successful emergency landing when their C-5's landing gear failed to extend. The landing was accomplished safely in spite of winds gusting to 35 knots, freezing temperatures, and darkness.

Members of the crew honored were aircraft commander Capt Frederick C. Bok, Maj LeRoy H. Smith, Maj Donald D. Hansen, Capt Terry D. Silverthorn, Capt Frank L. Mohler III, 1st Lt Herbert T. H. Denny, 1st Lt Darrell L. Weslander, MSgt William E. Judd, and SSgt John Mack of the 326 MAS (Associate) and Capt Charles L. Smith, Maj Donald A. Crews, TSgt Samuel B. Elzie, TSgt Wilmer E. Haupt, and SSgt Albert Lawrence of the 709 MAS (Associate).

● Capt Roy H. Bass, 4 MAS, McChord AFB, Washington, received an AFA Citation of Honor for acting as a communications link for a Japanese aviator who tried to fly non-stop from Tokyo to Seattle in honor of the U. S. Bicentennial. Because of Capt Bass' help, the Japanese pilot, whose Comanche aircraft was low on fuel, was able to land at McNamara Field, California.

● Det 1, 41 RWRW, Clark AB, Philippines, received a Citation of Honor for the aid it rendered to Philippine citizens following typhoons Pamela and Olga in May 1976. The unit saved 740 people in the wake of the storms.

Cool Crew

The alertness and attention to duty of three ground support personnel prevented possible disaster and earned for each the MAC Distinguished Individual Safety Award. SrA Phylander J. Moon, SrA Billy D. Lambert, and Amn Charles E. Glascock, Det 6, 37 ARRS, McConnell AFB, Kansas, were refueling an HH-1H helicopter in 42-degree temperature and 82-percent humidity. Eighty-five gallons of JP-4 had been loaded on the properly grounded aircraft when the crew heard a crackling noise coming from the refueling port.

Suspecting static electricity buildup and recognizing the potential for disaster, the crew immediately discontinued refueling. Following established procedures, they reported the incident and allowed the aircraft to remain dormant for 20 minutes. The refueling was then completed uneventfully.

Charleston Wing Gets Newest Award

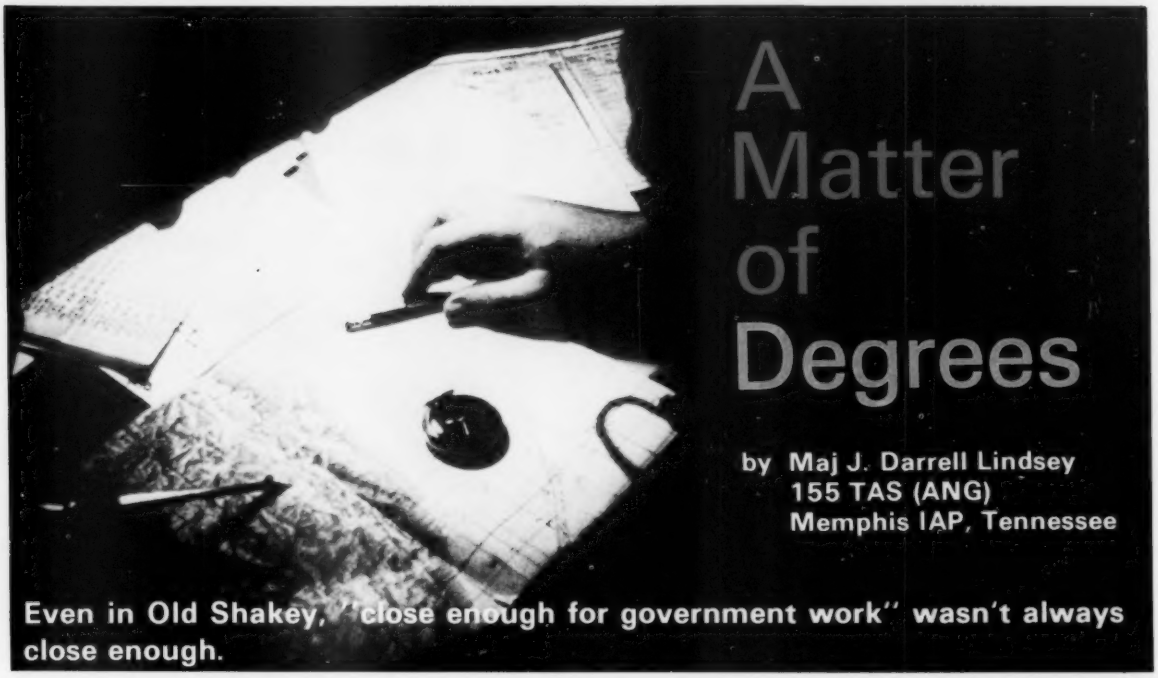
The 437 MAW, Charleston AFB, South Carolina, has received the first SICOFAA award. The brand-new safety award with the difficult name was presented to the wing for its flight safety performance during 1976.

SICOFAA is the Spanish acronym for System of Cooperation Among Amercian Air Forces. Each air force within SICOFAA establishes its own criteria for selection and grants an award yearly to one of its units. The 437th is the United States Air Force winner for 1976.

Lt Gen John F. Gonge, then the vice commander in chief of MAC, presented the award to Brig Gen Tedd L. Bishop, 437 MAW commander. The award consists of a trophy which will rotate each year to a new winner and an engraved plaque for permanent retention by the recipient.

General Bishop receives the first SICOFAA award from General Gonge.

Honorable Mention, 1977 MAC Flying Safety Writing Contest



A Matter of Degrees

by Maj J. Darrell Lindsey
155 TAS (ANG)
Memphis IAP, Tennessee

Even in Old Shakey, "close enough for government work" wasn't always close enough.

Whatever else they may say about the Navy, the anchor clankers really know how to throw a party. New Year's Eve, 1963, had been celebrated with unparalleled enthusiasm at the NAS Keflavik Officers' Club. The R-4360 backfiring between his ears, the fuzzy mold on his tongue, and the basketball in the back of his mouth where a palate used to be were painful reminders to Second Lieutenant Roger Mason that he had given himself to the festivities with unreserved commitment. His fellow crewmembers, too, were experiencing the young navigator's remorse in varying degrees of severity.

The C-124 crew had departed McGuire the day after Christmas with an emergency cargo of heating system components for the base hospital at Ramstein. Rounded up on short notice, the crew were less than pleased about being squirted out into the system in the middle of the holiday season, but they had pushed hard to deliver the much-needed cargo. Minimum crew rest and overlooking of minor maintenance items had been the order of the day. After dropping off the components at Ramstein and flying a couple of long days of intratheater priority missions, they had picked up a fire truck at Mildenhall to take back to the ZI for major repairs.

". . . the greatest New Year's bash ever staged in the free world."

By the time they arrived at Keflavik on the afternoon of 31 December the entire crew, including even mild-mannered Major Canyan, their AC, was spring-loaded for some serious R and R. It was their good fortune—so they thought—to meander into the greatest New Year's bash ever staged in the free world. Navy hospitality had been without equal. The "bluebelts" had just concluded an agreement with an ensign that the Air Force would dispose of all its ships if the Navy would give up all its airplanes, when the O'club manager notified the dwindling crowd that the party had been over for an hour. Two wrong turns and thirty minutes later, the celebrants—minus one—were on final for the BOQ. First Lieutenant Fred "Fast Freddie" Palmer, their copilot, had departed earlier in the company of a lady who obviously made all her own clothes and had a great personality.

It seemed as though they had

just collapsed into their bunks when a cheerful sailor banged on the door and bellowed his alert greeting. Mason managed to hit the floor with both feet at approximately the same time, while his roomie and first pilot, Capt Billy Howe, was transferring his flight boots to the proper feet. Had they really been in the rack for three hours? What a way to bring in the new year!

It was a slow start for obvious reasons—they would barely have time to flight plan, file, and make their scheduled departure time. When the three arrived at base ops, one glance at the enlisted crewmembers told them that the Old Year had been brutally slaughtered at the enlisted clubs also.

While Major Canyan and Lieutenant Mason collected their flight plan and other documents, Captain Howe initiated a search for coffee and Fast Freddie, who was on the brink of having to explain an AWOL incident. Pressed for time and partially revived by a steaming cup of Navy coffee, Mason hurried through his flight plan and managed to plot the first two legs of the flight on his chart before a schedule-conscious aircraft commander grabbed him for the weather briefing. The Navy forecaster, stepping back two paces as the crew approached his station, was less than encouraging—"in the clouds from just after liftoff . . . probable ice during climbout . . . considerable cloud cover to the coast of Canada . . . a minus thirty-five wind factor at FL100."

Although the forecaster's wind factor was considerably higher than the CFP's minus eighteen, taking time to revise the flight plan undoubtedly would result in a crew delay. Major Canyan jotted a few rapid calculations on the back of a paper towel and said that if Sergeant Cordoba managed the fuel economically, they shouldn't have any problems. And anyhow, they already had a full load of fuel and cargo that couldn't be bumped.

Just as the aircraft commander was beginning a farewell note to Lieutenant Palmer, the prospective recipient dragged his bulging B-4 bag through the door. It was immediately obvious that Fast Freddie would contribute little to the task at hand.

After a quick trip through the checklist and an uneventful runup, 20,000 loose parts in close formation were on the roll—on time. Just as the weather weenie had promised, everything went gray a few minutes after liftoff; viz was wingtip to wingtip, plus a little. A noticeable deterioration in performance led to discovery of an ice accumulation outside. Application of anti-ice solved the problem eventually, and the stuff began to disappear, occasionally shearing away in chunks and sheets.

He could get his act together when they reached the Greenland peninsula.

When they finally leveled at 10,000 feet, Major Canyan excused himself from the left throne and groped his way to the pilot's crew bunk. Sergeant Cordoba followed the AC's lead, turning the engineer's duties over to SSgt Frank Frazier, who had recently been checked out as second engineer. This left Captain Howe up front peering into the murk and Lieutenant Mason scrambling to finish plotting their course on the GLC and trying to get a fuel graph started.

The tacan broke lock early—neither Mason nor Howe knew exactly when. Computer flight plans were generally reliable, though, and the young navigator directed the copilot to take up the flight plan heading until he could get a good loran fix. There hadn't been enough time back at ops to get a time hack; and besides, if the forecaster was right, he probably wouldn't be able to see the sun all day anyhow. He could always get a hack from the HF if necessary. Celestial was too much trouble anyway, especially when loran LOP's were plentiful.

Mason finally got the course drawn and a fuel graph constructed based on the CFP data; he would find time later to compare fuel consumption based on the forecaster's winds. Moderate chop had made accurate plotting difficult and certainly had done nothing to improve the churning in his stomach. For a while, he would have traded his per diem for two Alka-Seltzers.

After about an hour the ride got smoother. Mason had almost caught up with the airplane, so he began his magic with the APN-70. No amount of dial-twisting would produce a usable trace on the loran scope. Must be the weather, he thought. Howe hadn't been able to raise anybody on the HF after an early initial contact. Ocean Station Alfa would be good for a solid fix

in a little less than an hour; Mason gave the pilot a new heading from the flight plan, set up Alfa's frequency on the ADF, and leaned back in his seat for a few winks.

The few winks extended into a full-scale snorefest, and when the navigator abruptly awakened, the aircraft was just past the ocean station. Anyway that's where he figured they were, according to the flight plan. His oversleeping had made little difference, however, since Alfa was being kept by a foreign vessel and no services were available that day.

It seemed odd that the loran still yielded no useable lines. The weather really wasn't that bad; they were still in the soup but there was no turbulence and the radar wasn't picking up any thunderstorm activity. In fact, the radar hadn't indicated anything since shortly after takeoff. In another couple of hours they would be nearing the southern tip of Greenland; Prince Christian NDB and a good radar picture would provide a welcome fix to replace the DR he had been carrying so far.

It was time for another airep. Might as well use the forecast wind on this one, he thought. Giving two consecutive Xrayed winds didn't look very professional and everybody in the world was listening. He still hadn't found time to update the fuel chart, but the last reported figure less 3,000 pounds ought to be good enough. As the copilot put down the latest issue of *Playboy* and took the airep form, he casually informed the navigator that he had not yet been able to raise anybody on HF. He would transmit this one in the blind as he had done the last one.

With the airep out of the way, Mason went to work on the fuel picture. Not having had a positive position since leveloff, he wasn't really sure how they were progressing in relation to the flight plan. But if his DR was reasonably accurate, "Shakey's" fuel consumption was running unusually close to the max line—almost on it, in fact. And if the Navy forecaster had been right about the wind factor, the fuel situation could be even worse than indicated on Mason's "How-goes-it". He wondered, too, if the winds were more out of the south, as the forecaster predicted. He mentioned his misgivings to the copilot, who declared that they probably had plenty of fuel and there was no need to wake Major Canyan this far from ETP. They would take a close look at it on the next plot.

The young navigator had forgotten to start recording pressure pattern data until about an hour past Alfa but now, although the blips on the SCR-718 were close to being superimposed, he was able to get what he thought were ballpark readings. Close enough for government work, anyhow. Pressure differential computations indicated three or four degrees more right drift than called for by the flight plan, but with those blips so close, his readings probably could have been off that much. No need to plot the pressure LOP, since all he had to plot from was a DR position. He could get his act together when they made the Greenland peninsula.

It was then that Mason noticed that the N-1 compass pointer was five degrees right of the heading he had given Captain Howe over two hours ago. He didn't know how long they had been on the 280 heading. Really should have verified the correct heading before going to sleep, he reflected.

Just as he gave the copilot a turn back to the original heading, Old Shakey bored into a patch of brilliant sunlight at 10,000 feet. For the next fifteen or twenty minutes, they encountered several breaks in the overcast, although the cloud cover below remained unbroken. Might be an opportunity to get a heading check, he thought: he

ABOUT THE AUTHOR

Major Lindsey began his military service in 1963 with the Air Force Reserve as a C-119 loadmaster. In 1964 he transferred to the Mississippi Air National Guard as a C-121 loadmaster and completed his undergraduate work and graduate work at Missisippi State University. He was commissioned in 1965 and completed navigator training in April 1966. Major Lindsey has navigated C-121's and C-124's; he's currently a C-130A instructor navigator. In civilian life, the author is an administrative assistant for the Rural Electric Cooperative, Brownsville, Tennessee.

inserted the sextant into the mount and then turned his attention to the radar.

According to the CFP, they should be coming up on the tip of Greenland within a few minutes. Nothing on the radar, though, even at max range. Well, the books do say that snow and ice yield deceptive returns—maybe none at all. This trip was Mason's first across the northern route—his first time out as a solo navigator, actually—and nobody had ever told him about the effects of radome icing.

He had tuned in Price Christian beacon earlier but had been unable to get an identifier. Still no luck with the bird dog! Wonder if it's out of commission. He wished he had taken time to check the notams.

Gotta take another look at that fuel in a few minutes, he thought, but first a heading check—and a sunline if I can buy just two minutes of sunshine. As he rolled the sextant altitude down to sight in on the rotating beacon for a quick alignment check, he recognized the two black lines whipping wildly across his field of view as the broken HF antennas. Well, that explained why they had no loran and no HF.

He swung the instrument around toward the nose of the aircraft as they entered another break in the overcast. Through the tiny sextant window, the brilliant white wall of glacial ice and snow a quarter of a mile ahead looked just like another big cloud. It even appeared that way at first glance to the copilot as he looked up from the centerfold.

The next fuel plot would have been above the max line.

Let Us Make One for You

How'd you like to have your name engraved on one of these fine desk sets? And then have it presented by one of the big shots? Well, each of the winners in the 1978 MAC Flying Safety Writing Contest will receive a beautiful desk pen set (or handsome wall plaque) in recognition of his or her literary prowess. We also have a prize for *anyone* who makes a contribution to flying safety by sending us a qualifying contest entry: a C.R. Terror T-shirt!

To secure your very own likeness of the World's Greatest Aviator and be in the running for one of the top prizes, compose your own flying safety story in almost any format you please—poetry, prose, philosophy, fact, or fiction—and send us two copies identified by title only on the first page. To these copies attach a short biography including your present work address and phone number. Type your article on 8 by 10-1/2 inch paper, double spaced, please. It should be 1,000 to 3,000 words long—that's about six to 14 pages; poetry may be shorter. No later than 31 March 1978, mail your super safety story to:

The MAC Flying Safety Writing Contest
HQ MAC/IGFE
Scott AFB, IL 62225

J.F. Kennedy International

La Paz, Bolivia

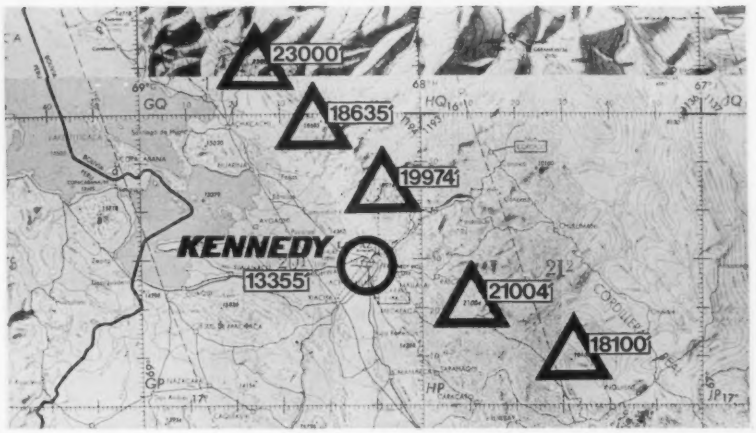
*(day-zha-voo), [Fr., lit., already seen], the illusion that one has previously had a given experience.

J.F. Kennedy International, just west of La Paz, Bolivia, South America, is perched on a high, flat plateau with very high terrain north, east, and southeast of the field; the highest peak in the vicinity rises to 21,400 feet and is 25 miles southeast of Kennedy.

Kennedy's field elevation is 13,355 feet MSL. The rarefied air makes errorless computation of takeoff and landing data absolutely essential. Final approach true airspeed and ground speed will be faster than you are accustomed to; remember that a 135-knot indicated approach speed equates to 165 knots TAS. You may get the feeling that you're landing with a 30-knot tailwind.

The single paved runway (09R/27L) is 13,100 feet long and 150 feet wide. There is no parallel taxiway, so you may have to back-taxi on the runway to reach the terminal near the eastern end of the airport. VASI and nonprecision approaches are available for runway 09R, but 27L is restricted to daylight visual approaches only. A civil airport, Laja, is 4.4 miles from the departure end of runway 27—it's for emergency use only.

—Adapted from ISD-Q6-364



Lofty peaks (marked with triangles) present a hazard to arriving and departing aircraft.

La Paz VOR, in the foreground, is the missed approach point for the VOR approaches to runway 09R. The mountains in the background are about 25 miles away.

About two miles on final for runway 27L; the air terminal is on the right.

C.R. resolves to mend his ways but suffers a breakdown in communications.

The crisp winter air and clear night sky did little to lift Long Suffering Sam's spirits as he morosely made his way toward base operations. It was 0500 on the first of January; Sammy and the rest of C.R.'s crew had just been alerted for the first mission of the new year. Sammy was expecting the worst. He was well aware that neither snow, sleet, gloom of night, nor the 12-hour bottle-to-throttle rule could stay the Bibulous Bumbler from toasting the New Year with unbridled enthusiasm. The only question was whether or not the Great One would be capable of moving under his own power.

Sighing in resignation, Sam entered the flight planning room—and stopped, transfixed. C.R. stood at the counter, poring over the computer flight plan. As he glanced up at Sam, his bright, alert eyes showed no trace of fatigue, let alone hangover. His complexion glowed with health; the pudgy paw which held his custom-made platinum flight-planning pencil was nervelessly steady. The distinctive aroma of Beefeater botanicals which so often followed in the Master Manipulator's wake was conspicuous by its absence.

"Ah, Sammy, m'boy. A Happy New Year to you," the Ambient Aeronaut boomed. "Why the thunderstruck expression? You look like you've just made AC five years below the zone."

"I, ahh, that is, I thought you'd be—I mean—"Sam stammered.

C.R. grinned slyly. "Ah, yes, I begin to perceive the provenance of your perplexity. You undoubtedly expected your fearless leader to be exhibiting the aftereffects of a seasonal celebration. Not so?" He grinned knowingly.

"Uh, well, yes, sir, but—"

"Tut, tut, m'lad, think nothing of it," the Rotund One interrupted. "Considering my, er, past history, you can hardly be blamed. But those days are gone forever, Sammy. Not that I've given up the fruit of the vine entirely, you understand; I've simply come to see the wisdom of moderation. I've also resolved to make some other minor adjustments to my lifestyle—such as using checklists, not taking broken airplanes, respecting thunderstorms, and so on. A new year and a new beginning, m'boy."

"Sir, do you mean to say that you didn't celebrate at all last night?" Sam's astonishment was slowly being replaced by skepticism; he'd heard this sort of declaration from C.R. before.

"Not exactly, Sammy. I simply set my alarm for a few minutes before midnight, toasted the appointed hour with a healthful glass of guava juice, and resumed my slumbers. But

enough of this chit-chat; the rest of the crew is arriving, and it's time to start the briefing."

Whatever his doubts as to the permanence of C.R.'s change in character, Sammy was determined to enjoy it while it lasted. The Great One's briefing was thorough and professional, as was his scrutiny of routing, notams, and Blinky's fuel planning. He even listened respectfully to the weatherperson and nodded his head attentively as the ACP duty officer checked off each item on his briefing sheet. Finally, after refusing to take the aircraft until a shaky radar was repaired, the World's Greatest installed Sam in the left seat, ran the checklists meticulously, and was ready to start engines precisely on time.

The Ace of Aerospace was still in a jocular mood as he keyed the mike. "Happy New Year, Quagmire Ground, 023's crankin' one."

"Ahh—Krank zero-one, say again?" the puzzled controller replied.

"Negative, Ground," C.R. snorted, "this's MAC oh twenty three, ready to light the fires and roll the tires."

"MAC 023, understand you've got a fire. Say your parking spot."

Sam grabbed for the mike button before C.R. could get a word out. "Negative fire, Ground. Repeat, negative fire. MAC 60023 is ready to start engines."

There was an extended silence on ground control frequency. Finally a frosty voice came through. "Roger, MAC 60023, advise ready to taxi."

Sam glanced at his Bulgy Boss. "Sir, some of these guys may not be as sharp as you are this morning; maybe you'd better take it easy on the jargon. Besides, it's not consistent with your resolution to be professional."

"C'mon, Sammy, what's wrong with a little levity on New Year's Day? Besides, when that fuzzy-faced youngster's been around for awhile, he'll start to get a handle on how professional aviators talk. But we've got a mission to fly; let's commence the motors and get flying."

"Ahh, yes, sir," Sam acquiesced. "Starting-engines checklist."

As they taxied to the runway, C.R.'s resolve to do things right seemed to be returning. He was careful to complete each checklist, paid close attention to possible obstacles near the taxiway, and even took time to give Sam a few pointers on takeoffs in a gusty crosswind. Then, as they approached the end of the active, the clearance came through.

"MAC 60023, you're cleared to Charleston via the Maze Three Departure, Fillmore transition, flight plan route. Cross the 120-degree radial of Watertown at or below 5,000, maintain 5,000. Departure control on 277.6 or 125.3, squawk 4377, read back."

The Corpulent Communicator, who had been pulling on his pigskin flying gloves when the clearance came in, scribbled furiously to catch up. "Ah, rog, 23's cleared to Charleytown via, ah, the Blaze Three to Stillman, cross the two-one-oh of Watertown at five, departure on 276.6 or 123.5, forty-three seventy-seven, s'long and Happy New Year." Then without waiting for a reply, he switched to tower frequency. "Tower, ought twenty-three's ready to slip the surlies."

"Uhh, roger, 60023, taxi into position and hold."

"Twenty-three's on to hold."

Blinky finally managed to cut in as Sam taxied the Starlifter onto runway 27. "Sir, I'm not sure you got the readback right. Didn't he say the Fillmore transition?"

"Yeah, boss," Sam added, "and I'm not sure about that crossing restriction, either. Maybe you oughta call him back—"

"Nonsense, m'boy," C.R. cut in. "Now, that would *really* sound unprofessional. Anyway, we can figure it out by ourselves. What did you get for the crossing restriction, Blinky?"

While the Terrorific Threesome discussed their clearance, the tower controller was working

with a C-5 awaiting takeoff on runway 31. "Boron 33, winds are two niner zero at one five, gusts to two three, cleared for takeoff." He watched as the Galaxy began to roll.

Back in the 141's cockpit, the Master Manipulator and crew had almost gotten the clearance straightened out. The conversation had blocked out tower's call to the C-5—except for, " . . . two three, cleared for takeoff." The Great One lost no time in responding.

"There's our clearance, Sammy. Let's get a quick lineup check and get gone." Switching both radios to departure control frequency, he began reading the checklist.

"Boss, are you sure that was for us?" Sam inquired. "I don't know—"

"C'mon, Sammy, let's go—we're holding up the orderly flow of traffic."

"Yes, sir," Sammy sighed, pushing the throttles forward.

In the tower, the controller watched in amazement as the Starlifter began moving. It was apparent that the Lockheed Bifurcator would come very close to meeting its bigger brother at the intersection of the two runways.

"MAC 60023, abort your takeoff!" he ordered peremptorily on tower frequency. The call produced no response. He tried again on departure frequency, then on guard. Still no luck. The big gray and white airplanes roared ever faster toward the intersection.

The C-5, having started earlier, arrived first; as it passed in front of the 141, it was about 100 feet in the air. The Starlifter was also airborne; but as it hit the wake of the jumbo, the issue became very much in doubt. Sparks flew from a wingtip as the airplane snapped into a 70-degree left bank. Slowly, it righted itself, flipped in the other direction, then with agonizing slowness returned to wings-level and began to climb. The tower controller finished giving instructions over the crash phone and put in a call for the wing commander.

"Terror, if I hadn't listened to those tapes, I wouldn't have believed it." The general's voice quivered with barely suppressed rage. "Not one of your radio calls was even close to standard procedure. You read back your clearance incorrectly, then didn't wait for confirmation. You accepted a takeoff clearance meant for another aircraft. You changed to departure frequency—the wrong one—without clearance. And to cap the whole idiotic performance, you had your guard receiver turned off! It's only because of your co-pilot's quick reactions that I've got the pleasure of handing you these in person." He shoved a stack of papers toward a quaking C.R. "Now get out—and it had better be a long, long time before I hear your voice on an aircraft radio again."

As the door of the commander's office slammed shut behind C.R. and Sammy, the Great One wiped his perspiring forehead and began to peruse the stack of papers.

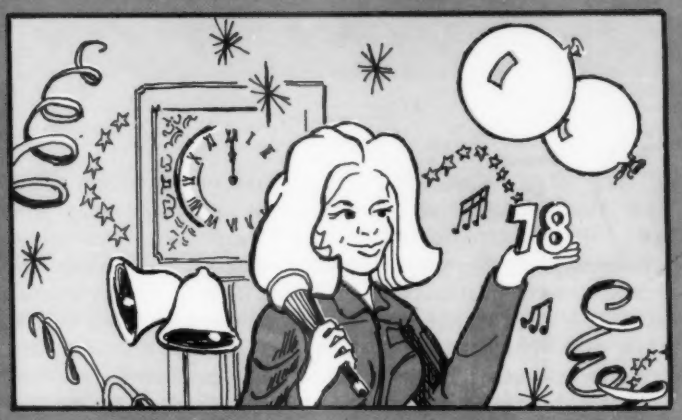
"You know, boss, he was right," Sam said gently. "Professionalism counts just as much on the radios as it does with the rest of the mission."

"Yeah, well, it looks like I'm gonna have a chance to develop some professionalism in that particular area," C.R. replied glumly. "According to these orders, I'm about to become a communications officer." Then, as he read further, his already gloomy countenance lapsed into total despair.

"Ahh . . . Sammy . . ." he inquired weakly.

"Yes, boss?"

"Have you ever been to the O'Club at Shemya?"



Quick Stoppers

C-141 Nose Job

The crew of the C-141 had started their descent into the terminal area of a Pacific tropical paradise when they heard a loud bang. This was followed by vibrations and noise from the nose section. The airlifter remained easy to control and the pressurization held during the descent. In fact, the only thing that didn't work was the radar.

After landing, the crew discovered that four-fifths of the nose radome was missing. The radome had separated downward in flight, tearing the radome locks from the fuselage. As they departed, pieces of the radome and antenna made small holes in the fuselage and right wing. A two-inch-square piece of radome was found imbedded in the left main landing gear pod. Fortunately, none of the airborne foreign objects had damaged the turbofans. Investigators conclusively ruled out lightning or birdstrike as a cause. Any of you care to venture a guess?

Posi-Skid?

The Galaxy's functional checkflight had gone well and the crew was finishing up with a minimum run landing. When the pilot applied max reverse thrust and braking, Albert showed some fancy moves of his own—veering sharply to the right. The Galaxy driver regained control of the situation by releasing the brakes.

Tower called the MAC fliers and advised them that "more than the usual amount of smoke" belched from the wheels on touchdown. The scanner climbed down and found four blown tires on the left side.

It seems that crossed hydraulic brake lines fooled the antiskid systems. When maximum braking was applied, the antiskid sensed a nonskid condition on the front pair of tires on bogies one and three and diverted increased brake pressure to presumably, those wheels. But because of the crossed lines, the pressure ended on the wrong four wheels—which locked up and blew—while the needy wheels received no pressure at all.

Meanwhile, back on the ramp, the technician and inspector responsible for the crossed lines were disqualified and placed in requalification training.

Dinging Demonstration

The helicopter instructor pilot smoothly retarded the throttles to flight idle, lowered the collective, and started his demonstration of a left 180-degree autorotation. As the IP started the turn, the master-caution and auxiliary-fuel-low lights came on. The AC candidate in the right seat extinguished the master caution light and reset the auxiliary fuel tank switches. He completed his fuel management exercise when the Huey was about three-fourths of the way through the turn.

Meanwhile, the instructor had been flying the chopper by outside references. He sensed that his rotor rpm and airspeed were too low and the sink rate too high. Seeing the demonstration was a flop, he rolled the throttles to full power and continued his turn toward the landing area. He completed the turn at about 50 feet AGL, 25 to 30 knots airspeed, slightly nose high, and with a high sink rate. At about ten feet AGL, the IP determined there *was* going to be a landing so he lowered the nose to the landing attitude and held the collective position to keep rotor rpm. The helicopter touched down with 20 knots ground speed, bounced once, and skidded about 85 feet. Total damage: excessive deflection of the aft torque tube requiring replacement.

The aircrew had demonstrated some of aviation's most classic mistakes: failure to use a composite cross-check; failure to pay attention during a critical phase of flight, and failure to recognize a bad approach. You can probably find more.

The Legend of Bigmouth

It was a clear, sunny day at Old Muni Airport, when—from out of the West came the legend-in-his-own-mind, Bigmouth, piloting his very own Cessna. The approach controller tried to vector Bigmouth to the north of Old Muni for traffic sequencing under Stage III, but The Mouth, staying in character, resisted. He kissed off the controller with "negative Stage III" calls, threats against him and his supervisor, and a change to tower frequency.

Many aircraft were trying to use Old Muni that day, so the safety-conscious tower controller tried to get Bigmouth to go back to approach and get sequenced; Bigmouth steadfastly resisted. He declared he was VFR, intended to stay that way, and made a few remarks about the tower controller's supervisor. The Cessna entered on base leg and Old Muni tower, with relief, cleared Bigmouth to land.

An Air Force chopper pilot listened (what else could he do?) to the birth of this living legend. In his Hazardous Air Traffic Report he stated, "[Bigmouth] had consumed so much of the tower's radio traffic by petty bickering . . . and threats of reprisal as to cause a hazard. The tower controller handled the situation calmly and kept safe traffic flow despite [Bigmouth's] incessant radio traffic."

Qs

Unexpected Rollout

The aircrew started number four engine and the crew chief moved backward to watch the start of number three. While his back was turned, the transient maintenance folks pulled the nosewheel chocks—their standard practice. The crew chief didn't notice that the parking brake had been inadvertently released.

The other engines were started and the checklist was continued up to the point of removing external power and chocks. When all four engines were running, the crew chief turned and walked away from the aircraft, preparing to check the rotating beacons. The aircrew busied themselves inside the cockpit copying the clearance and setting switches. The crew chief turned around and was surprised to see he was being followed. The unplanned trip was short since the number two engine cowling struck the power cart just as a startled pilot applied the brakes.

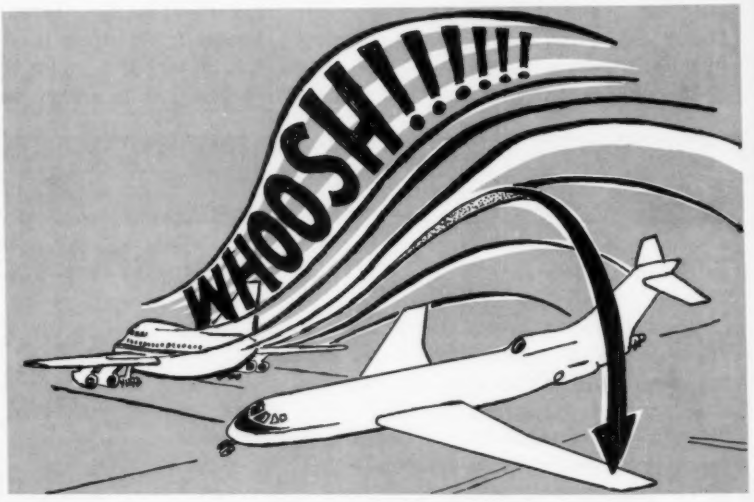
Jumbo Shear

The pilot of the commercial trimotor had been cleared to land on the westerly runway. His Boeing big brother had just taxied across the active and was holding with engines at idle power. Though the wind was light (nine knots), the 727 driver wisely added 10 knots above "bug" airspeed, just in case.

The trijet crossed the threshold at 50 feet in good shape. But as the 727 reached 35 feet above the runway, the pilot encountered heavy turbulence, loss of lift, a sudden bank of 15 to 20 degrees to the left. The captain responded with full power and rudder. Recovery was at 15 feet. Whew!

Experts figure that the combination of the jumbo's blast and wind could have resulted in a vortex flow that created a downwash on the 727's left wing.

—Adapted from
Flight Safety Facts & Reports



Notable Quote

***Education* is what you get from reading the fine print;**
***Experience* is what you get from not reading it.**

—Crosscheck

after deadline . . . .

TIPTOE THROUGH THE TREE TRUNKS--Due to airfield construction the tower cleared the C-141 to taxi on an unlighted taxiway that wasn't meant for big airplanes. It was so dark that the copilot and engineer watching the right wing didn't realize that the wing tip had struck trees along the taxiway. The AC stopped 150 feet further on because he felt things were getting too tight. The scanner deplaned to check wing tip clearance and discovered the damage.

WHERE WERE YOU IN '62? If you were a MATS aircrew member, you probably have some good anecdotes. We need stories from the "good ol' days" for our 30th-anniversary-of-MAC issue, planned for June 1978. We also need nostalgic goodies from the MATS days or before. Naturally, we'll return items of value.

METEOROLOGICAL METRICATION FORECAST: Rain, snow and temperatures in '79, more later--maybe. Adverse public opinion delayed metrication of public weather reporting until June 1979. However, aviation weather reporting will start giving temperature in degrees Celsius, rainfall in millimeters and snowfall in centimeters on 1 January 1979. The date for metrication of other aviation weather data is still indefinite.

A ROCK AND A HARD PLACE--The crew of the Starlifter that lost two engines on takeoff last October faced a situation that was even hairier than the news releases pointed out. Besides the struggle to milk up the flaps and regain flying airspeed, the MACmen had to cope with dense smoke in the cockpit, a ram air door that wouldn't open, difficulty in locating the field, and a raft of other problems. Watch for more on this in a later issue.

CAUTION: MEN AND EQUIPMENT may be on the runway even if you're not expecting them. Not long ago, a KC-135 had to abort just below "go" speed when a snowplow entered the runway without clearance. And in another incident, a C-141 was cleared for takeoff with men working on the arresting gear at the far end; the grossed-out Starlifter cleared the working party by 50 to 100 feet. The crew hadn't been informed that the last 3,000 feet of runway were closed and runway slope prevented them from seeing the workers until it was too late to stop.

* U.S. GOVERNMENT PRINTING OFFICE: 1978-765-097/9

Touch 'n Go

How 'bout it, grey and white ten-wheeler, got your ears on?